

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No.: 10/595,056 Examiner: David L. Sorkin
Filing Date: January 20, 2005 Group Art Unit: 1797
Inventor: Michael Steffen Attorney Docket No.: 72.105
Assignee: Wacker Neuson SE Confirmation No.: 1915
Invention: *Internal Vibrator Provided with a Liberation Device*
Priority: German Patent Application No. 103 33 555.2; Filed 23 July 2003

DECLARATION UNDER 37 CFR §1.132

Commissioner for Patents
Post Office Box 1450
Alexandria, VA 22313-1450

Sir:

I, Michael Steffen, hereby declare and state as follows:

I make this declaration in support of a response to the outstanding Office Action in U.S. Patent Application Serial No. 10/595,056 entitled "*Internal Vibrator Provided with a Liberation Device*" (the '056 application).

1. I hold the title of Electrical Engineer with the assignee of the '056 application, Wacker Neuson SE, which I have held since 1987. I have a degree in Electrical Engineering from University of Trier and have 23 years of experience in the design and manufacturing field of construction equipment and tools. I consider myself to be one skilled in the arts of site and material preparation, placement, and finishing, and systems, devices, and tools related to the same.

2. I am familiar with the contents of the '056 application. I have read the Examiner's Office Action of November 3, 2009 and the prior art cited by the Examiner in the office Action.
3. I also believe, based on my knowledge of the invention disclosed and claimed in the '056 application, the disclosures of prior art patents cited by the Examiner, and my knowledge of construction equipment, tools, and devices, that the Jordan et al. reference cited by the Examiner does not disclose, expressly or inherently, and that it would not have been obvious, to arrive at a vibrator that includes an operating state change device, or is otherwise capable of automatically reversible operation as is disclosed and claimed in the '056 application. My reasoning is covered in the following paragraphs.
4. I have read and understood U.S. Patent No. 6,808,384 to Jordan et al. which correlates to WO 00/61344. As the subject matter of Jordan et al. was developed and is assigned to my employer, Wacker Neuson SE (formerly Wacker Construction Equipment AG), I am familiar with the workings of the system disclosed therein. As discussed in the Responses to the Office Actions of November 3, 2009 and March 31, 2009, and in the following paragraphs of this declaration, the Jordan et al. system and its method are clearly intended for use at two different albeit steady state operating conditions. Based on my knowledge of the art, including the Jordan et al. patent, and the other references cited by the Examiner, I believe that Jordan et al. does not disclose, expressly or inherently, and that one skilled in the art using common sense would be directed away from, the idea of automatically reversing the direction of operation of the vibrator of Jordan et al.

5. The unique method of liberating a "stuck" or jammed vibrator excited and/or preventing such occurrences, being presented as the core invention in the '056 application, includes automatically reversing the direction of rotation of the exciter relative to a vibrator housing so as to reduce and/or eliminate the incidence of a jammed exciter. This process involves allowing operation of the vibrator in 1) a normal operating state associated with compaction of liquid concrete and 2) a liberation operating state. During the liberation operating state, the direction of rotation of the electric motor is automatically reversed as compared to the normal operating state. The vibrator device includes an operating state change device that automatically changes to the state, and thereby the rotational direction of operation of the vibrator device. Automatically periodically reversing the direction of rotation of the exciter prevents jam related twisting of the normally non-rotatable structures of the vibrator device thereby reducing incidence of destruction or loss of the vibrator bottle.
6. The method and device disclosed in the Jordan et al. patent involves providing a vibrator device that can be operated in two different rotational directions so as to provide a first exciter mass associated with the first direction and a second exciter mass associated with the second direction. The device of Jordan et al. is switched on for operation in one of the alternate exciter rotational directions to allowing operation of the vibrator with either one or both of two different unbalanced masses. The different masses associated with the alternate rotational directions allow the degree of compaction to be adjusted depending on the vibrator loading such as the type of concrete being consolidated. The device of Jordan et al. provides two different but static or steady state operating conditions.

7. The Jordan et al. device is not able to automatically change its direction of rotation, the feature that attributes to liberating or preventing jamming the vibrator as with every change of direction the vibrator is only able to move a little into the preferred direction.
8. There are several reasons why it is not logical to automatically reverse the direction of operation of the vibration device of Jordan et al. Such reasons include:
 - a. periodically automatically reversing the direction of rotation of the exciter would result in unexpected coupling of operating exciter masses as the alternate masses repeatedly couple and decouple;
 - b. the unexpected coupling of the exciter masses would undesirably effect compaction by continuously altering the vibrational amplitude;
 - c. the continually adjusting exciter mass and motor speed would dramatically impair the user's ability to adequately control operation and positioning of the vibrator assembly; and
 - d. repeatedly automatically reversing the direction of operation of the exciter assembly disclosed in Jordan et al. would most undoubtedly yield premature failure of the vibrator device due to the repeated collision of the separate masses that would be generated during automatic reversing operation of the vibrator assembly disclosed therein. It would be illogical to design a machine to operate in that manner.

9. In view of reasons discussed above, I am of the opinion that Jordan et al. does not, expressly or inherently, disclose or remotely suggest constructing a vibrator assembly having an operating state change device or that is capable of automatically reversing the direction of operation of the vibrator device as is called for in the claims of the '056 application.
10. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardized the validity of the application or any patent issued thereon.

Dated: Feb. 1 2010

Michael Steffen
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